



Insulin I siRNA (r): sc-156136

BACKGROUND

Insulin I is a secreted peptide hormone that elicits metabolic effects such as increases in glucose uptake and glycogen synthesis leading to a decrease in blood glucose concentration. Insulin I is first formed as a precursor molecule, proinsulin, which is later cleaved to proinsulin and finally to the mature Insulin I hormone. Mature Insulin I consists of 51 amino acids, contained within an A chain and a B chain that are connected by two disulfide bridges. It increases cell permeability to monosaccharides, amino acids and fatty acids. Insulin I is secreted by the pancreas at basal levels in the absence of exogenous stimuli, with secretion increasing in response to glucose. Insulin I action is effected by the binding of Insulin I to cell-surface receptors on the target cell membrane. Defects of Insulin I are the cause of hyperproinsulinemia and of type 2 diabetes mellitus.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Ins1 (rat) mapping to 1q55.

PRODUCT

Insulin I siRNA (r) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Insulin I shRNA Plasmid (r): sc-156136-SH and Insulin I shRNA (r) Lentiviral Particles: sc-156136-V as alternate gene silencing products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNases and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Insulin I siRNA (r) is recommended for the inhibition of Insulin I expression in rat cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 66 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Insulin I gene expression knockdown using RT-PCR Primer: Insulin I (r)-PR: sc-156136-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.